E 473
.2
.S97
Copy 1

The Monitor and the Merrimac,

FROM

"THE TWELVE DECISIVE BATTLES OF [illegible] WAR,"

BY

WILLIAM SWINTO[illegible],

Author "Campaigns of the Army of the Poto[illegible]etc.

1867.

The Monitor and the Merrimac,

FROM

"THE TWELVE DECISIVE BATTLES OF THE WAR,"

BY

WILLIAM SWINTON,

Author "Campaigns of the Army of the Potomac," etc.

[New York . D. & F. Fitzgerald

1867.

S. B. T.

E473
.2
S97

The Battle of Hampton Roads.

I.

An hour after noon of the 8th of March, 1862, a fleet of steamers was discovered by the Union lookout in Hampton Roads, descending the Elizabeth River, rounding Sewall's Point, and standing up towards Newport News. The signals were promptly made to the blockading squadron in that neighborhood, whereof two sailing vessels, the frigate Congress and the sloop-of-war Cumberland, were anchored off Newport News, and the remainder of the fleet near and about Fort Monroe, six miles distant. So soon as the tidings spread, the fine frigates Minnesota, Roanoke, and St. Lawrence got under way, slipped their cables, and, with the aid of tugs, moved up towards the approaching enemy. The gale of the previous day had abated, and there was but little wind or sea. As the Confederate fleet steamed steadily into view its character became apparent; the central figure was the long-expected Merrimac, whose advent had been the theme of speculation through days and nights for many weeks, not only in the squadron which waited to receive her, but throughout the country. The cry of "the Merrimac! the Merrimac!" speedily ran from ship to fort, and from fort to shore. To the curious eyes of the thousand spectators gazing intently from near, or peering through telescopes from afar, she seemed a grim-looking structure enough—like the roof of an immense building sunk to the eaves. Playing around her, and apparently guiding her on, were two well-armed gun-boats, the Jamestown and Yorktown,

formerly New York and Richmond packets, which seemed to act like pilot-fish to the sea-monster they attended. Smaller tugs and gun-boats followed in her wake, some of which had emerged from the James River. On she came, the Cumberland and Congress meanwhile bravely standing their ground; and, as the Merrimac approached the latter vessel she opened the battle with the angry roar of a few heavy guns. The Congress answered with a full broadside, and when the Merrimac, passing her, bore down upon the Cumberland, the latter, too, brought to bear upon her very available gun, in a well-delivered fire. To the chagrin of both vessels, their heaviest shot glanced as idly from the flanks of their antagonist as peas blown at the hide of a rhinoceros. Hot and terrific as was the firing that now took place, the contest could only be of short duration. With fell intent, the huge kraken, unharmed by the missiles rained upon her, bore down upon the Cumberland, and, striking that ill-fated vessel with her iron beak, under terrific momentum, rent a great gaping cavern in her side. In an instant it was seen that all was over with the Cumberland. But, while the waters rushed into the yawning chasm, and while the ship sank lower and lower, her gallant crew, led by their heroic commander, Lieut. Morris, refused to quit their posts, and with loud cheers continued to pour their broadsides upon the gigantic enemy. As the guns touched the water they delivered a last volley: then down to her glorious grave went the good Cumberland and her crew, with her flag still proudly waving at the mast-head.

Meanwhile, the consorts of the Merrimac had furiously engaged the Congress with their heavy guns. Warned by the horrible fate of the Cumberland, she had been run aground in an effort to avoid being rammed by the Merrimac. But the latter, at half past two, coming up from the destruction of the Cumberland, took deliberate position astern of the Congress, and raked her with a horrible fire of heavy shells. Another steamer attacked her briskly

on the starboard quarter, and at length two more, an unneeded reinforcement, came up and poured in a fresh and constant fire. Nevertheless, until four o'clock the unequal, hopeless contest was maintained; and with each horrible crash of shell, the splinters flew out, and the dead fell to the deck of the dauntless Congress. She could bring to bear but five guns on her adversaries, and of these the shot skipped harmlessly from the iron hump of the dread monster who chiefly engaged her. At last, not a single gun was available; the ship was encircled by enemies; her decks were covered with dead and dying, for the slaughter had been terrible; her commander had fallen; she was on fire in several places; every one of the approaching Union vessels had grounded; no relief was possible; then, and then only, was the stubborn contest ended, and the flag of the Congress hauled down.

And now, with the waters rolling over the Cumberland and with the Congress in flames, the Confederate dragon, still belching her fiery, sulphurous breath, turned greedy and grim to the rest of the Union Squadron. Arrived within a mile and a half of Newport News, the Minnesota grounded while the tide was running ebb, and there remained a helpless spectator of the sinking of the Cumberland and the burning of the Congress. The Roanoke, following after, grounded in her turn; more fortunate, with the aid of tugs, she got off again, and, her propeller being useless, withdrew down the harbor. In fine, the St. Lawrence grounded near the Minnesota. At four o'clock, the Merrimac, Jamestown, and Yorktown, bore down upon the latter vessel; but the huge couching monster, which in a twinkling would have visited upon her the fate of the Cumberland, could not, from her great draft, approach within a mile of the stranded prey. She took position on the starboard bow of the Minnesota, and opened with her ponderous battery; yet with so little accuracy, that only one shot was effective, that passing through the Union steamer's bow. As for her consorts, they took position on the port bow and stern of the

Minnesota, and with their heavy rifled ordnance played severely upon the vessel, and killed and wounded many men. The Merrimac, meanwhile, gave a share of her favors to the St. Lawrence, which had just grounded near the Minnesota, and had opened an ineffectual fire. One huge shell penetrated the starboard quarter of the St. Lawrence, passed through the ship to the port side, completely demolished a bulk-head, struck against a strong iron bar, and returned unexploded into the wardroom; such were the projectiles which the Merrimac was flinging into wooden frigates. Very soon the St. Lawrence got afloat by the aid of a tug, and was ordered back to Fort Monroe. The grounding of the Minnesota had prevented the use of her battery, but at length a heavy gun was brought to bear upon the two smaller Confederate steamers, with marked effect. As for the 10-inch pivot gun, its heavy shot were harmless against the Merrimac. Thus the afternoon wore on, till with the parting day died the fury of battle; at length at seven o'clock, to the great relief of the Union Squadron, all three Confederate vessels hauled off and steamed back to Norfolk.

So ended the first day's battle in Hampton Roads. What wild excitement, what grief, what anxiety, what terrible foreboding for the morrow possessed the Union Squadron when night fell, cannot be described. All was panic, confusion, and consternation. That the Merrimac would renew the battle in the morning was too evident, and the result must be the destruction of a part of the fleet, the dispersion of the rest, and the loss of the harbor of Hampton Roads. Her first victim would be the Minnesota, now helplessly aground off Newport News; next, whatever vessel might be brave or rash enough to put itself in her way; whether she would then pause to reduce Fort Monroe; or, passing it by, would run along the Northern coast, carrying terror to the national capital, or making her dread apparition in the harbor of New York, was uncertain. The commander of the Fort, General Wool, telegraphed to Washington that probably both the Minnesota and

the St. Lawrence would be captured, and that "it was thought that the Merrimac, Jamestown, and Yorktown will pass the fort to-night." Meanwhile, that officer admitted that, should the Merrimac prefer to attack the fort, it would be only a question of a few days when it must be abandoned.

It was upon such a scene that the little Monitor quietly made her appearance at eight o'clock in the evening, having left the harbor of New York two days before. Long before her arrival at the anchorage in Hampton Roads the sound of heavy guns was distinctly heard on board, and shells were seen to burst in the air. The chagrined officers of the Monitor conceived it to be an attack upon Norfolk, for which they were too late, and the ship was urged more swiftly along. At length a pilot boarded her, and half terror-stricken, gave a confused account of the Merrimac's foray. The response was a demand upon him to put the Monitor alongside the Merrimac; terrified at which, the moment the Roanoke was reached he jumped into his boat and ran away. The appearance of the Monitor did little to abate the consternation prevailing. That so insignificant a structure could cope with the giant Merrrimac was not credited; and those who had anxiously watched for her arrival, for she had been telegraphed as having left New York, gazed with blank astonishment, maturing to despair, at the puny affair before them. Her total weight was but nine hundred tons, while that of the Merrimac was five thousand; what had yonder giant to fear from this dwarf? A telegram from Washington had ordered the Monitor to be sent thither the moment she arrived; but this of course was now disregarded, and the senior officer of the Squadron, Captain Marston, of the Roanoke, authorized Lieutenant Worden to take the Monitor up to the luckless Minnesota and protect her.

It was a memorable night. In fort, on shipboard and on shore, Federals and Confederates alike could not sleep from excitement; these were flushed with triumph and wild with anticipation, those

were oppressed with anxiety or touched the depths of despair. Norfolk was ablaze with the victory, and the sailors of the Merrimac and her consorts caroused with its grateful citizens. In Hampton Roads, amidst the bustle of the hour, some hopeless preparations were made for the morrow. The Monitor, on reaching the Roanoke, found the decks of the flagship sanded and all hands at quarters, resolved, though destruction stared them in the face, to go down in a hard fight. Her sister-ship still lay aground off Newport News, tugs toiling all night painfully but uselessly to set her afloat again: meanwhile, a fresh supply of ammunition was sent to her. As for the officers and crew of the Monitor, though worn out by their voyage from New York, they had little mind for sleep, and passed much of the night in forecasting the issue of the coming day. The stories poured into their ears respecting the armor and battery of the Merrimac had not dismayed them, or weakened their confidence in their own vessel; yet, as the officers had not been long enough on her to learn her qualities, nor the men to be drilled at the guns and at quarters, the guns, the turrets, the engines, the gear, and everything else, were carefully examined, and proved to be in working order.

While thus in toil and expectation the night-hours passed, an entrancing spectacle illumined the waters around. The landscape, a short distance off, in the direction of Newport News, was brilliantly lighted by the flames of the burning Congress. Ever and anon a shotted gun, booming like a signal of distress, startled the air around the ill-fated ship, when its charge had been ignited by the slowly-spreading flames. Ten hours now, the ship had been burning; and at one o'clock in the night, the fire reached the magazine, which blew up with an explosion heard more than fifty miles away. At once, in a gorgeous pyrotechny, huge masses of burning timber rose and floated in the air, and strewed the waters far and wide with the glowing débris of the wreck: then succeeded a sullen and ominous darkness, in which the flickering of the

embers told that the course of the Congress was nearly run. Meanwhile, the dark outline of the mast and yards of the Cumberland was projected in bold relief on the illumined sky. Her ensign, never hauled down to the foe, still floated in its accustomed place, and there swayed slowly and solemnly to and fro, with a requiem-gesture all but human, over the corpses of the hundreds of brave fellows who went down with their ship.

At six o'clock on the morning of March 9th, the officer on watch on the Minnesota made out the Merrimac through the morning mist, as she approached from Sewall's Point. She was up betimes for her second raid, in order to have a long day for the work. Quickly the Monitor was notified, and got up her anchor; the iron hatches were then battened down, and those below depended on candles for their light. It was a moment of anxiety on the little craft, for there had been no time for drilling the men, except in firing a few rounds to test the compressors and the concussion, and all that the officers themselves, who were now to fight the ship, knew of the operation of the turret and guns, they learned from the two engineers who were attached to the vessel, and who had superintended her construction. When the great smoke-pipe and sloping casement of the Confederate came clearly into view, it was evident that the latter had been smeared with tallow to assist in glancing off the shots. As she came down from Craney Island, the Minnesota beat to quarters; but the Merrimac passed her and ran down near to the Rip Raps, when she turned into the channel by which the Minnesota had come. Her aim was to capture the latter vessel, and take her to Norfolk, where crowds of people lined the wharves, elated with success, and waiting to see the Minnesota led back as a prize. When the Merrimac had approached within a mile, the little Monitor came out from under the Minnesota's quarter, ran down in her wake to within short range of the Merrimac, "completely covering my ship," says Captain Van Brunt, "as far as

was possible with her diminutive dimensions, and, much to my astonishment, laid herself right alongside of the Merrimac." Astounded as the Merrimac was at the miraculous appearance of so odd a fish, the gallantry with which the Monitor had dashed into the very teeth of its guns was not less surprising. It was Goliath to David; and with something of the coat-of-mailed Philistine's disdain, the Merrimac looked down upon the pigmy which had thus undertaken to champion the Minnesota. A moment more and the contest began. The Merrimac let fly against the turret of her opponent two or three such broadsides as had finished the Cumberland and Congress, and would have finished the Minnesota; but her heavy shot, rattling against the iron cylinder, rolled off even as the volleys of her own victims had glanced from the casement of the Merrimac; then it was that the word of astonishment was passed, "the Yankee cheese-box is made of iron!"

The duel commenced at eight o'clock on Sunday morning, and was waged with ferocity till noon. So eager and so confident was each antagonist, that often the vessels touched each other, iron rasping against iron, and through most of the battle they were distant but a few yards. Several times, while thus close alongside, the Merrimac let loose her full broadside of six guns, and the armor and turret of the little Monitor was soon covered with dents. The Merrimac had, for those days, a very formidable battery, consisting of two 7½-inch rifles, employing twenty-one pound charges, and four 9-inch Dahlgrens, in each broadside. Yet often her shot, striking, broke and were scattered about the Monitor's decks in fragments, afterwards to be picked up as trophies. The Monitor was struck in pilot-house, in turret, in side armor, in deck. But, with their five inches of iron, backed by three feet of oak, the crew were safe in a perfect panoply; while from the impregnable turret the 11-inch guns answered back the broadsides of the Merrimac.

However, on both sides, armor gained the victory over * guns; for, unprecedented as was the artillery employed, it was for the first time called upon to meet iron, and was unequal to the task. Even the Monitor's 11-inch ordnance, though it told heavily against the casement of the Merrimac, often driving in splinters, could not penetrate it. So excited were the combatants at first, and so little used to their guns, that the latter were elevated too much, and most of the missiles were wasted in the air; but, later in the fight, they began to depress their guns; and then it was that one of the Monitor's shot, hitting the junction of the casement with the side of the ship, caused a leak. A shot, also, flying wide, passed through the boiler of one of the Merrimac's tenders, enveloping her in steam, and scalding many of her crew, so that she was towed off by her consort. But, in general, on both ships the armor defied the artillery.† It is this fact which contains the key to the prolonged contest of that famous morning. The chief engineer of the Monitor, Mr. Isaac Newton, questioned afterwards by the War Committee of Congress, why the battle was not more promptly decided against the Merrimac, answered:—"It was due to the fact that the power and endurance of the 11-inch Dahlgren guns, with which the Monitor was armed, were not known at the time of the battle; hence the commander would scarcely have been justified in increasing the charge of powder above that authorized in the Ordnance Manual. Subsequent experiments de-

* Extract from an official letter from Admiral Dalhgren, to Hon. Gideon Welles, Secretary of the Navy, November 20th, 1864.

"When the rebel ram Merrimac issued forth and inflicted such grievous "damage at Hampton Roads, she was driven back by the Monitor's two "11-inch guns, and never ventured on another trial.

"The Merrimac was obliged to endure the blockade of the Monitor, "and never dared to venture to the conflict; her commander preferred to "*sink her and did so.*"

† See Captain Byer's statement, page 24.

veloped the important fact that these guns could be fired with thirty pounds of cannon powder, with solid shot. If this had been known at the time of the action, I am clearly of opinion that, from the close quarters at which Lieutenant Worden fought his vessel, the enemy would have been forced to surrender. It will, of course be admitted by every one, that if but a single 15-inch gun could possibly have been mounted within the Monitor's turret (it was planned to carry the heaviest ordnance), the action would have been as short and decisive as the combat between the monitor Weehawken, Captain John Rodgers, and the rebel iron-clad Atlanta, which, in several respects, was superior to the Merrimac." He added that, as it was, but for the injury received by Lieut. Worden (of which hereafter), that vigorous officer would very likely have "badgered" the Merrimac to a surrender.

The Minnesota lay at a distance, viewing the contest with undisguised wonder. "Gun after gun," says Captain Van Brunt, "was fired by the Monitor, which was returned with whole broadsides from the rebels, with no more effect, apparently, than so many pebble stones thrown by a child . . . clearly establishing the fact that wooden vessels cannot contend with iron clad ones; for never before was anything like it dreamed of by the greatest enthusiast in maritime warfare." Despairing of doing anything with the impregnable little Monitor, the Merrimac now sought to avoid her, and threw a shell at the Minnesota which tore four rooms into one in its passage, and set the ship on fire. A second shell exploded the boiler of the tug-boat Dragon. But by the time she had fired the third shell, the little Monitor had come down upon her, placing herself between them. Angry at this interruption, the Merrimac turned fiercely on her antagonist, and bore down swiftly against the Monitor with intent to visit upon her the fate of the Cumberland. The shock was tremendous, nearly upsetting the crew of the Monitor from their feet; but it only left a trifling dent in her side armor and some

splinters of the Merrimac to be added to the visitor's trophies.

It was now that a shell from the Merrimac, striking the Monitor's pilot-house, which was built of solid wrought-iron bars, nine by twelve inches thick, actually broke one of these great logs, and pressed it inward an inch and an half. The gun which fired this shell was not more than thirty feet off, as the Merrimac then lay across the Monitor's bow. At that moment Lieut. Worden, the commander, and his quartermaster, were both looking through a sight-aperture or conning-hole, which consisted of a slit between two of the bars, and the quartermaster, seeing the gunners in the Merrimac training their piece on the pilot house, dropped his head, calling out a sudden warning, but at that instant the shot struck the aperture level with the face of the gallant Worden, and inflicted upon him a severe wound. His eyesight for the time and for long after was gone, his face badly disfigured, and he was forced to turn over his command to Lieut. Greene, who hitherto had been firing the guns. Chief Engineer Stimers, who had been conspicuously efficient and valuable all day by his skillful operation of the turret and by the encouragement and advice he gave to the gunners, thereby increasing the effective service of the guns, now personally took charge of the latter, and commenced a well-directed fire.

However, with the wounding of Worden, the contest was substantially over, a few well-depressed shots rang against the cuirass of the Merrimac, and the latter despairing of subduing her eager and obstinate antagonist, after four hours of fierce effort, abandoned the fight, and with her two consorts, steamed away for Norfolk, to tell her vexation to the disappointed throng of spectators, and then to go into dock for repairs.

The great misfortune the Monitor had experienced in the loss of her determined commander prevented her from pursuing, and forcing the battle to a surrender. But, left in possession of the field, the little vessel could hardly believe at first that her enemy

had beat a retreat; but greater were the surprise and relief of the Minnesota, which, unable to expect a successful issue to the contest, had made all the usual preparations for abandoning the ship, and had laid a train to her magazine. The rest of the squadron in whose cause this timely champion had flung down the gauntlet and entered the lists, together with the troops in the forts, found equal cause for gratitude. Cheers and congratulations rose up on all hands, and the enthusiasm was as great as had been the depression of the previous day. The joyous news was flashed through the North, and now from Congress, now from Chambers of Commerce and Boards of Trade, now from public meetings and societies convened for the purpose, thanks and laudations were poured upon the Monitor, Ericsson, her inventor, Worden, her commander, Greene, her executive officer, Newton, her chief engineer, Stimers, the engineer detailed to accompany and report on her, and who worked the turret, all the officers in short, and the crew shared the honors. The President, members of his cabinet, many of the diplomatic corps, officers of both services and many ladies too, crowded to see the new engine of warfare and to view with their own eyes the place of the conflict of Hampton Roads.

Results of Hampton Roads.

II.

The Monitor and the Merrimac have long since run their course, and shared the fate of the Cumberland and Congress; but the influence of their desperate struggle in Hampton Roads, ever-widening from that day onward, has extended all over the globe. The results of this battle were both national and international, belonging on the one hand to the Southern insurrection, but on the other hand to the naval science of all nations, the ratio of whose maritime supremacies it readjusted.

Had the Merrimac continued the triumphant career which she began, it is difficult to compute her possible devastation. During the present generation at least, the emotions which thrilled America, north and south, at the receipt of the tidings of Hampton Roads cannot be forgotten; the surprise, the joy, the triumph, the measureless hopes which filled the South, the anxiety, the consternation, the dread forebodings which swept over the North. Beginning with the Minnesota, which she would quickly overcome, the Merrimac, let loose among the Union fleet in Hampton Roads, would have burst through it like an avenging fury, destroying everything in its course, and scattering all that it did not destroy. How powerless indeed the wooden fleet would have been against this one mailed monster, the story of the first day's battle tells. With the Union fleet dispersed or led captive to grace its triumphs, the Merrimac would have remained the monarch of Hampton Roads. The blockade would have been raised, and a great ocean

highway thrown open at the very threshold of the Confederate capital. The tenure of Fort Monroe would have been insecure; for it was generally declared that, at that time, with the whole Union fleet, transports and all, driven off, the reduction of the fort by the Merrimac and her various consorts, armed as they were with very heavy ordnance, would be but a question of days. What loss of men and material, what loss of strategic position, and above all prestige, would have ensued to the Union arms from such a disaster, it is easy to appreciate. Moreover, the possession of Hampton Roads and by consequence of the James and York Rivers would have ruined the campaign set afoot by General McClellan for the capture of Richmond, and by forcing the choice of a different line of operations, would have changed the whole military as well as the whole naval history of the war. Nor is it McClellan's campaign alone which would have been thwarted, but all subsequent campaigns, requiring a base on the James, or the York, or the Appomattox, as long as those waters were in Confederate keeping. In other words, it would have blocked up the chief or the only practicable line of operations against the Confederate capital; for as to overland campaigns, their errors were illustrated by a series of experiments growing more sanguinary and more fatal, from first to last, until they were forever abandoned: what, then, if the water approaches to Richmond, had been kept open to its use?

Such would have been the possibilities had the Merrimac found no Monitor to dispute the mastery of Hampton Roads, even had she been content to stay within the confines of the watery realm she had conquered. Suppose, however, that, after achieving her other conquests, she had ran out to sea? In a northerly course, what had prevented her from steaming up the Potomac, to the terror of the National Capital, or barred her from the harbor of New York itself, there to sweep through the shipping, capturing or destroying at her fancy, and laying under contribution

the chief commercial city of the Union? Or, turning southward, what had hindered her from breaking the blockade of other ports, as she had broken that of Norfolk, and in such a stroke what decisive triumph was there not for the South, what depth of disaster for the North?

The circle of possible results again enlarges; for, with such Confederate naval successes, foreign nations must have ultimately inclined to recognition and support of the Confederacy. The Merrimac's operations would, as their least results, have supplied the Confederacy with whatever arms or munitions of war or other products or fabrics she might require; but, beyond that, the blockade itself would have been so compromised, as no longer to command the respect of nations which, hostile from national policy to the Union, waited no aggravated pretext for turning the scale against it. Never were the prospects of the Confederacy for foreign aid brighter than in the spring of 1862; and so strongly was this truth felt at the North, as well as at the South, that the mere presence of Admiral Milne's British fleet in the St. Lawrence was looked upon with distrust and trepidation, and with many prophecies that it was stationed there to take advantage of the first successful breaking of the blockade. Angry words must have been exchanged with France and England, words would have been followed by blows, the Confederacy would have received the alliance of one or both of these countries, and the republic have been forever rent in twain.

Thus much of what might have been the issue of the battle of Hampton Roads but for the Monitor. This aspect seems the graver on reflecting that, had the North resorted to the broadside system of iron-clads, of which the New Ironsides was an example, then not to speak of draft, or thickness of armor, or calibre of battery, or expense of construction, or any other of those respects in which the Monitor system proclaims its excellence, the mere time required in their building would have been fatal to the

cause of the Union. Not only would the Merrimac have accomplished all that was expected of her, but she would have been reinforced by other iron-clads, to double or treble her work of destruction; for the Confederate Government started in advance of the National Government in iron-clad construction, and the success of the Merrimac would have caused the hurrying to completion of the other similar craft already begun. Thus, long before a fleet of broadside iron-clads, long before a single one even could have been made ready, the sceptre of naval supremacy, and therewith National Independence, would have passed into the hands of the South. But now we must turn to the actual issue of the battle of Hampton Roads.

The immediate result of the conflict between the Monitor and the Merrimac was obviously enough the overthrow of the great projects conceived by the latter vessel, the salvation of the Union squadron, and the preservation of the blockade and of Fort Monroe. Its wider result was to furnish to the Union a new engine of warfare, which, rapidly and cheaply constructed, proved impregnable in defence and irresistible in attack. The Confederate vessels, ingenious, formidable, and fatal to any but the monitors, were yet hopelessly inferior to these. While the principle on which the original monitor was constructed, remained fixed, and was reproduced in her successors. Soon, therefore, the Union navy possessed a full fleet of Monitors. With these it maintained a blockade which otherwise could not have been maintained, as at Charleston and Savannah; with them it conquered again and again powerful Confederate casemated iron-clads, like the Atlanta and the Tennessee; with them it withstood the fire of some of the heaviest artillery known to modern warfare, and in return, silenced the enormous earthworks in which that artillery was planted, as at Fort Fisher. In fine, the Monitor met to the full all the requirements of the war, whether in the passive duty of blockade, or in the active one of sinking hostile ships and capturing hostile citadels.

There was another office, too, besides the overthrow of its immediate enemies, which the Monitor performed for the Union. The 15-inch gun in the impregnable Monitor turret, mutters with its deep voice, "hands off," to whatever transatlantic nation might before have meditated an interference in the American War. Before the rapidity of the achievement was comprehended, a squadron of monitors patrolled the Atlantic seaboard, capable of destroying any fleet that might challenge entrance to its harbors. The lesson was not lost upon foreign ministers, who inclined to think twice before encountering this new and terrible engine of defence.

The story of the battle in Hampton Roads created the profoundest sensation in the court of every maritime nation. For months, not only the scientific but the popular journals were filled with the discussion of its merits and its meaning; the professional naval world was profoundly agitated; Admiralty Boards and Ministers of Marine conned its details; in fine, Russia and Sweden promptly accepted the Monitor as the solution of the naval problem of the age, and followed the lead of America in reconstructing their navies on that system. France and England had, unfortunately for themselves, been committed to the broadside iron-clad before the introduction of the Monitor, and the enormous sums already laid out, (enough to build many squadrons of Monitors), joined to some national pride, and, in the case of England at least, reenforced by a wondrous obstinacy of depreciation only to be understood when one reads such histories as that of the screw-propeller—these causes prevented the renunciation in France and England of their iron-clad navies already built, and the substitution of the turreted Monitor. However, in both countries, the combat of the 9th of March was received with the profoundest study, and was regarded as the death-stroke to wooden war-vessels. In England, on hearing the news of the battle, the House of Commons, in obedience to general sentiment,

stopped at once the great military project of building forts at Spithead for the defence of Portsmouth. The Defence Commission, too, was hastily reassembled for the special purpose of considering the effect of the "recent engagement that has taken place in the Chesapeake between the naval forces of the United States and the Confederates," on the erection of these forts. The Royal Commission found "the expression of opinion which followed the action of the Merrimac and Monitor," and the "doubts that took possession of the public mind" thereupon to be "not unreasonable." But when, notwithstanding these doubts, the Commission had the hardihood to recommend the construction of the forts, the government, again menaced by the House of Commons, was forced to abandon this position, and the proposed Spithead forts were given up, reliance being had for defence, in the future, upon iron-clad vessels.

The War of the Rebellion ended, America found that in her Monitor system she had gained an advantage over every other nation on the globe. While the enormous outlays of Great Britain and France had produced a series of vessels which, according to simple scientific calculations, could not attempt to withstand a first-class Monitor, she, at a trifling cost, had secured an iron fleet, which, having performed inestimable service in quelling the insurrection, now furnished an impregnable defence to her coast from hostile invasion. The heavy rolling of broadside iron-clads, even in comparatively smooth seas, exposes their hulls below the armor to a hostile shot in a vital point; and, in addition, not only subjects the gun-ports to a liability of water rushing into them, but obviously renders accurate gunnery impossible. Again, it is impossible to build a broadside iron-clad of any practicable size which can be covered with armor sufficient to resist modern artillery, and the result is the adoption of the "central fort system," which covers the vessel with iron only amidships, and leaves the rest to be shot through and through: yet, even the thickest parts

can be penetrated by the Monitor's guns. Finally, there comes the difficulty of working in broadside anything like the heavy guns used in the Monitor. In a word, to say nothing of the monstrous size and unwieldiness, of the enormous cost, of the impracticable draft, of the English broadside ships, the very best of them could be shot through in their most heavily-armed parts by the tremendous ordnance of the Monitors, whilst a great part of them is not protected at all. On the other hand, their heaviest missiles would rattle idly from the impregnable Puritan or Dictator as if they were but pebble stones.

The Monitor is, in its nature, one of those radical expressions of a scientific idea which do not admit further change in principle. It was not the result of a ship-builder's experiment, no lucky guess or happy accident, but a calculated product, wrought out in the endeavor to solve a problem then engaging the mind of the chief naval powers of the world. The transatlantic methods employed on that intricate question do not complete the requirements of the problem. We have already seen how, in order to produce the maximum impregnability, the hull of the Monitor was permitted to protrude but a few inches above water, and her decks were stripped of bulwarks and all other unnecessary appendages. Thus, while the Warrior, a vessel of 10,000 tons total displacement, can only support about four and a half inches of armor, and that for only about half her length, the little harbor-monitors of the Passaic class, designed simply for coast defence, though only about one-fifth the Warrior's size, carry armor nearly twice as thick from stem to stern. As for the heavy Dictators and Puritans, though but half as large as the Warrior, their armor is more than thrice as thick as that of the English ship in its thickest part, and that throughout their entire lengths. Then, on the other hand, it was desirable to mount heavier guns in the new vessel than had ever before been carried, or had ever before been provided against, or could be provided against except on the Moni-

tor system. Thence sprang the device of the cylindrical turret which, being revolved on its periphery by steam-power, could adroitly turn its port-holes to any point in the horizon. Nor was this turret complete in its operation till so built that it formed a water-tight joint with its deck. Within this impregnable floating castle the power of the enclosed artillery is only limited by the genius of the gun-maker; for the turret is an impervious gun-carriage, which, operated by mechanism, can carry ordnance of any size, and only waits for the limit to which the art of gunsmithery shall go.

Should it happen that, while the United States adopts the monitor war-vessels, her maritime rivals remain content with those of the broadside pattern, the successful initiation of the former in the battle of Hampton Roads will have resulted in giving to America the supremacy of the seas. But should it happen, as is far more likely, that sooner or later, and by gradual steps, England and France shall be forced to copy the Monitor, with such petty modifications as may soothe national pride, then, as iron-clad vessels have revolutionized naval warfare, so monitors in turn will revolutionize the warfare of iron-clads; and the pigmy warrior of Hampton Roads will have dictated reconstruction to the navies of the world.

In these modern days of ours, mechanism has made vast inroads on the domain of *morale*, and nations which once ruled the seas by virtue of the courage and skill of their sailors, and by national pride and training in marine enterprise, have found their prestige swept away. Mechanism usurps the offices once performed by men. In this era of mechanical warfare, it is idle to expect moral excellence to supply the lack of material strength. With equal advantages, indeed, the former will pluck victory from any battle, but material superiority itself supplies confidence, and however brave the assailant, he may find he is dashing his head against a rock. Naval war still more than war on the land is a

question of science, and we cannot expect bravery to accomplish miracles or to reverse the conclusions of natural laws. So found the Niagara, when off Lisbon she encountered the Stonewall. Nor is it always enough to have iron hearts in wooden walls. It is a curious speculation what might have been the result of the Southern insurrection, had the Confederacy possessed, and the Union lacked, mechanical geniuses who would have furnished her novel implements and engines of destruction. Had some skillful brain armed her troops with a cheap breech-loading rifle; had some Ericsson equipped her with a fleet of monitors, while the North was laboring at tardily-constructed broadside iron-clads; or supplied her with floating batteries not the less terrible in power because they avoided the use of expensive engines; or protected her rivers and so the great cities lying thereon; or given her some perfect torpedo capable of clearing all her blockaded harbors; in short, had scientific devices made up for want of resources, by inventions suited to the humble capacities of the South, what might not have been the issue? War grows to be each day an exacter science. A nation, arming itself with a needle-gun, confidently rushes upon its neighbor twice as strong in numbers and resources, and, at a thought, brings the great rival's knee to the dust. Nations can be made or undone at the desk of an engineer.

Statement Relating to "Merrimac," etc.

Captain James Byers, of Buffalo, N. Y., was at Norfolk, from September, 1860, to the 8th day of May, 1862, Master of steam tug J. B. White, built at Buffalo by Geo. Notter. He was employed by the contractors building the Albemarle Canal. The Merrimac was sunk by the Federals near the Navy Yard, previous to the evacuation of Norfolk, to avoid her falling into the hands of the Confederates. She was raised for the Confederates by Baker Bros., wreckers, and put into the dock at Norfolk, cut down and fitted up—a heavy frame of wood covered with heavy plate iron. They worked on her night and day. She was armed with four heavy guns on each side, one on bow and one aft—ten heavy guns in all.

She went out on Saturday, the 8th of March, 1862, under command of Admiral Buchanan, and sunk the Cumberland and Congress on that date.

I saw the fight from the deck of my steamer. She also exchanged shots with the Minnesota, which was aground on the middle ground in Hampton Roads, half way between Sewell's Point and Newport News. The Merrimac could have easily destroyed the Minnesota on Saturday, (March 8th,) but they did not wish to harm her—she would be too valuable to them as a prize. They felt sure of her on the morrow, with all the other craft in the Roads and at anchor off Fortress Monroe.

The Merrimac retired for the night, and anchored off Sewell's Point until next morning. In her encounter with the Cumberland and Congress, a shot from one of the guns of the Cumberland entered the muzzle of the bow gun of the Merrimac, bursting the gun and killing seven men.

Sunday, March 9th, the Merrimac hove up and steamed out to "finish up" the work of destruction and capture left undone the day before. The day was clear and pleasant, the sun shining brightly, with little or no wind. Some Confederate officers and citizens of Norfolk, came on board my steamer at Norfolk, and ordered me to get under way and run out to see the Merrimac finish up. We ran down off Craney Island, and from our deck saw the fight between the Monitor and Merrimac. The Confederates were all in high spirits, anticipating an easy victory. They talked very freely over the mission and marked programme of the Merrimac. She was to capture the Minnesota and all the vessels in the Roads, and then to proceed to New York and other Eastern cities. There was no doubt about the result, and that she would go where she wished, with impunity to herself.

We had been off Craney Island about half an hour, in plain sight of Hampton Roads and the different craft there. We saw the Merrimac, and presently the Monitor came out and attacked her. We could not tell what the Monitor was—nothing had ever been known of her in Norfolk, and it was all speculation what she was. The fight was watched with great interest. Soon there began to be doubts about the result. Some Confederate officers who had been down nearer than we were, came back, and in passing told us that the unknown craft was a "*wicked thing*," and we better not get too near her. One of the shots from one of the combatants came skipping over the water very near us, from nearly a mile distant.

We stayed there until the fight was over. The Merrimac came back into the river badly disabled, and almost in a sinking

condition. Tugs had to be used to get her into the dry dock at the Navy Yard, the crew pumping and bailing water with all their might to keep her afloat. I saw her in the dock at Norfolk next day, was on board of her and made a personal examination of the ship. The effect of the Monitor's guns upon the Merrimac was terrible. Her plated sides were broken in, the iron plating rent and broken, the massive timbers of her sides crushed; and the officers themselves stated that she could not have withstood the effect of the Monitor's guns any longer, and that they barely escaped in time from her.*

The Merrimac lay in dry dock repairing and strengthening for six weeks, when she was again put afloat under the command of Admiral Tattnall. After the Merrimac was repaired and came out of dock, the only thing she did was to form part of an expedition to go out into the Roads to attempt to capture the Monitor. The expedition was made up of the Merrimac and two tugs, manned by thirty volunteers on each tug boat. They were all armed and provided with iron wedges and top mauls and tar balls. The plan was to board her, a tug on each side landing the men, and throwing lighted tar balls down through the ventilators and wedge up the turret so it would not revolve. They took my steamer as one of the boats, but I refused to command her or go with her. The Monitor, luckily for them, did not come out over the bar to give them a chance to try the experiment. The pounding which the Monitor gave the Merrimac the latter never recovered from. They lost faith in her.

I ran the blockade on the 8th day of May, 1862, escaping with my steamer, the J. B. White, to Fortress Monroe, where I met President Lincoln with some of his Cabinet, giving him the

---

* This was the time when the Monitor retired a few minutes to get some more shot from below into the turret.—NOTE BY E. P. D.

first information he had of the true state of affairs at Norfolk, and the preparations made by the rebels to evacuate it.

Admiral Tattnall blew up the Merrimac off Craney Island shortly afterwards—a fitting end to a gallant but unfortunate ship in the service she was last engaged in.

JAMES BYERS.

LIBRARY OF CONGRESS
0 013 701 233 9